Application No.: 10/620,725 Docket No.: 532512000401

## **CLAIMS**

(without amendment)

1-70. (canceled)

71. (previously presented): A method to deliver a drug which is an anti-inflammatory, an antineoplastic agent, a hormone, a mitotic inhibitor, an antirheumatic, a neuromuscular blocker, a sedative, an antiallergic drug, a hormone, an anti-helmintic, an antimalarial, an antituberculosis drug, an immune serum, an antitoxin, an antivenom, a rabies prophylaxis product, a bacterial vaccine, or a viral vaccine to a target tissue or organ, which method comprises

administering to a subject containing said tissue or organ a composition of nanoparticles, said nanoparticles comprising a core consisting of liquid fluorocarbon coated with a lipid/surfactant layer,

wherein said coated particles are coupled to a targeting ligand that binds to a moiety on or in said tissue or organ; and

wherein said drug is confined to said layer and not carried or deposited in the core of said nanoparticle by preparing said nanoparticles by a process that consists essentially of:

- (a) mixing the drug with the components of the lipid/surfactant layer in a solvent or mixture of solvents;
  - (b) evaporating the solvent or mixture to obtain a film;
  - (c) dispersing the film into water;
  - (d) adding the perfluorocarbon; and
  - (e) emulsifying the dispersion to form said nanoparticles; and

wherein said targeting ligand effects prolonged contact between the lipid bilayer of cells of said tissue or organ with the lipid/surfactant layer of said coated particles such that delivery of the drug to the tissue or organ is facilitated.

72-74. (canceled)

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75. (previously presented): The method of claim 71, wherein said targeting ligand is selected from the group consisting of antibodies, antibody fragments, peptides, asialoglycoproteins, polysaccharides, aptamers, nucleic acids, peptidomimetics, and drugs.

- 76. (previously presented): The method of claim 75, wherein said targeting ligand is an antibody.
- 77. (previously presented): The method of claim 71, wherein said fluorocarbon is perfluorooctylbromide.
- 78. (previously presented): The method of claim 71, wherein said fluorocarbon is a liquid with a boiling point above  $30^{\circ}$ C.
- 79. (previously presented): The method of claim 78, wherein said fluorocarbon liquid has a boiling point above 90°C.

## 80-81. (canceled)

82. (previously presented): The method of claim 71, wherein said lipid/surfactant layer is composed of a material selected from the group consisting of a natural or synthetic phospholipid, a fatty acid, cholesterol, lysolipid, sphingomyelin, tocopherol, glucolipid, stearylamine, cardiolipin, a lipid with ether or ester linked fatty acids and a polymerized lipid.

## 83-84. (canceled)

- 85. (previously presented): The method of claim 71, wherein said coated nanoparticles have a diameter in the range of 0.01 to 10 microns.
- 86. (previously presented): The method of claim 85, wherein said coated nanoparticles have a diameter in the range of approximately 0.1 to 0.5 microns.

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87-93. (canceled)

94. (previously presented): The method of claim 71 wherein the drug is an antineoplastic agent, a mitotic inhibitor, a hormone, or an anti-inflammatory.

- 95. (previously presented): The method of claim 71 wherein the drug is a taxane or rapamycin.
  - 96. (previously presented): The method of claim 95 wherein the drug is paclitaxel.
  - 97. (previously presented): The method of claim 94 wherein the drug is doxorubicin.

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